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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,329	02/20/2002	Michael Barnett	3382-61109	9799

26119 7590 01/05/2005

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EXAMINER
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RAMPURIA, SATISH

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/081,329

Applicant(s)

BARNETT ET AL.

Examiner

Satish S. Rampuria

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>Jul 16, 2002</u>  | 6) <input type="checkbox"/> Other: _____                                    |

***DETAILED ACTION***

1. This action is in response to the application filed on Feb 20, 2002.
2. Claims 1-32 are pending.

***Specification***

3. The abstract of the disclosure is objected to because a brief narrative of the disclosure as a whole in a single paragraph is required. The abstract contains two paragraphs. See MPEP § 608.01(b).

Appropriate correction is required

***Information Disclosure Statement***

4. An initialed and dated copy of Applicant's IDS form 1449 filed on July 16, 2002 is attached to the instant Office action.

***Drawings***

5. The drawings were received on Feb 20, 2002. These drawings are acceptable by the examiner.

***Claim objections***

6. Claims 1-32 are objected to because of the following informalities:

Regarding claims 1-32, they contain the word "CT", it is not clear what it stands for. It should be accompanied with a proper full form in each claim where it appears. It's interpreted as "conformance test" for examining purposes only.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are non-statutory because they recite software components of performing conformance test, representing functional descriptive material without a computer readable medium or computer implemented, program per se are not tangibly embodied. Claims 1-11 thus amounts to only abstract idea and are nonstatutory.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if

the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-3, 5, 7-14, 16, 18-25, 27, and 29-32 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,260,065 to Leiba et al. (hereinafter called Leiba).

**Per claims 1 and 2:**

Leiba disclose:

- A method of conformance-testing a software implementation with a software specification (col. 3, lines 62-63 “a method ... software application”), the method comprising:
- applying the software implementation and the software specification to produce a CT enabled implementation (col. 2, lines 11-12 “performing compliance testing based on... requirements”) wherein nondeterministic choices of the software specification result in assigning a corresponding choice of the CT enabled implementation to a variable (col. 2, lines 28-31 “each response ...non-deterministic... responses... each response”); and
- the CT enabled implementation comprising a test that the variable comprises one of the nondeterministic choices of the software specification (col. 4, lines 7-10 “The analyzer component can be instructed to allow for permissible non-deterministic ordering of responses and ordering of components within any given response”).

**Per claim 3:**

The rejection of claim 1 is incorporated, and further, Leiba disclose:

- the CT enabled implementation comprising at least one first operation to carry out when the variable comprises one of the nondeterministic choices of the software specification

(col. 2 and 3, lines 65-67 and 1 “the execution engine... include a response analyzer for non-deterministic ordering of responses and ordering of components within the responses”); and

- the CT enabled implementation comprising at least one second operation to carry out when the variable does not comprise one of the nondeterministic choices of the software specification (col. 2, lines 34-37 “specifying responses associated with the at least one command to be saved and used for subsequent commands and comparisons to the expected responses”).

**Per claim 5:**

The rejection of claim 1 is incorporated, and further, Leiba disclose:

- including in the CT enabled implementation instructions of the software implementation to synchronize the state of variables of the software implementation with the state of variables of the software specification (col. 7, lines 8-10 “the analyzer 215 fetches an expected response, given in the TIF, and a server response, from a proxy 216 or a previously stored response from a variable, and compares the two tokens for equality”).

**Per claim 7:**

Leiba disclose:

- A method of conformance-testing a software implementation with a software specification (col. 3, lines 62-63 “a method ... software application”), the method comprising:

- producing a software object organized such that each step of the software specification has a corresponding code section in the software object (col. 2, lines 5-8 “providing configuration information and a sequence of test commands to the server application with response requirements for expected responses associated with each of the commands”); and
- the software object comprising at least one instruction which, when executed by a computer system, causes an identification of a mandatory call comprised by the software specification to be stored in a memory of the computer system (col. 2, lines 45-49 “expected responses... marked as one of a mandatory response, an optional response, a forbidden response, several mandatory responses and several optional responses for permitting testing of various types of responses, various types of test data and varied implementations of the server application”).

**Per claims 8, 9, and 10:**

The rejection of claim 7 is incorporated, and further, Leiba disclose:

- the software object comprising at least one instruction which (col. 2, lines 56-58 “test processor... includes parser... for parsing and checking test instructions input to the test processor”), when executed by the computer system (col. 2, lines 59-60 “test instructions into objects and an execution engine for executing objects”), causes a test that the state of a CT enabled implementation conforms to the software specification during the mandatory call (col. 2, lines “response of the server application upon execution of the instructions are compared to expected responses included in the test instructions to

determine conformance” and col. 2, lines 45-49 “expected responses... marked... a mandatory response, an optional response... of the server application”).

**Per claim 11:**

The rejection of claim 7 is incorporated, and further, Leiba disclose:

- including in the CT enabled implementation instructions of the software implementation to synchronize the state of variables of the software implementation with the state of variables of the software specification (col. 7, lines 8-10 “the analyzer 215 fetches an expected response, given in the TIF, and a server response, from a proxy 216 or a previously stored response from a variable, and compares the two tokens for equality”).

*Claims 12-14 and 16* are the computer program product claims corresponding to method claims 1-3 and 5 and rejected under the same rationale set forth in connection with the rejection of claims 1-3 and 5 above.

*Claims 18-22* are the computer program product claims corresponding to method claims 7-11 and rejected under the same rationale set forth in connection with the rejection of claims 7-11 above.

*Claims 23-25 and 27* are the apparatus claims corresponding to method claims 1-3 and 5 and rejected under the same rationale set forth in connection with the rejection of claims 1-3 and 5 above.

*Claims 29-32* are the apparatus claims corresponding to method claims 7-11 and rejected under the same rationale set forth in connection with the rejection of claims 7-11 above.



Substantially as claimed.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 4, 6, 15, 17, 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leiba in view of US Patent No. 6,321,376 to Willis et al. (hereinafter called Willis).

**Per claim 4:**

The rejection of claim 1 is incorporated, and further, Leiba does not explicitly disclose compiling the software implementation from a first high-level language into an intermediate language; compiling the software specification from a second high-level language into the intermediate language; and producing the CT enabled implementation in the intermediate language.

However, Willis discloses in an analogous computer system compiling the software implementation from a first high-level language into an intermediate language; compiling the software specification from a second high-level language into the intermediate language; and producing the CT enabled implementation in the intermediate language (col. 7 and 8, lines 60-67 and 1-3 "FIG. 4... the formal language specification is parsed into a specification intermediate (Block 31), then a test case compiler creates a compiled test case generator, potentially using an intermediate programming language manifestation of the generator and

associated programming language compiler (both within Block 50) to yield an executable generator... resulting compiled generator (Block 51) produces test cases in a manner functionally equivalent to the interpretative generator (Block 32)").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of compiling software implementation / specification from high level language into an intermediate language as taught by Willis in corresponding to the method of verifying software applications using conformance test as taught by Lieba. The modification would be obvious because of one of ordinary skill in the art would be motivated to compile software implementation / specification from high level language into an intermediate language to provide an efficient way of performing conformance testing as suggested by Willis (col. 2, lines 38-53).

**Per claim 6:**

The rejection of claim 1 is incorporated, and further, Leiba does not explicitly disclose including in the CT enabled implementation instructions of the software implementation to provide the choice of the CT enabled implementation corresponding to the nondeterministic choice of the specification.

However, Willis discloses in an analogous computer system : including in the CT enabled implementation instructions of the software implementation to provide the choice of the CT enabled implementation corresponding to the nondeterministic choice of the specification (376 col. 5 and 6, lines 65-67 and 1-4 "Choices... arise during generation... a production... occur a variable number of times or when one of several exclusive productions (non-terminal or lexical

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tokens) may be exercised... formal specification must provide some means by which the formal specification author may denote allowable choices in context and/or strategy or the generator may implicitly supply a choice and strategy”).

The feature of providing the choice of the conformance test implementation corresponding to the nondeterministic choices of the specification would be obvious for the reasons set forth in the rejection of claim 4.

***Claim 15 and 26*** are the computer program product claims corresponding to method claim 4 and rejected under the same rationale set forth in connection with the rejection of claim 4 above.

***Claim 17 and 28*** are the computer program product claims corresponding to method claim 6 and rejected under the same rationale set forth in connection with the rejection of claim 6 above.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Satish S. Rampuria** whose telephone number is (571) 272-3732.

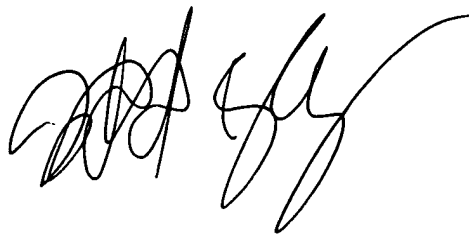
The examiner can normally be reached on **8:30 am to 6:00 pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Kakali Chaki** can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria  
Patent Examiner  
Art Unit 2124  
12/27/2004

A handwritten signature in black ink, appearing to read 'TODD INGBERG', with a long, sweeping horizontal line extending to the right.

**TODD INGBERG**  
**PRIMARY EXAMINER**